

RUN 11 RHIC MACHINE/EXPERIMENTS MEETING

7 Dec 2010

Agenda:

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RUN 11 RHIC MACHINE/EXPERIMENTS MEETING

DECISIONS

11/23/2010

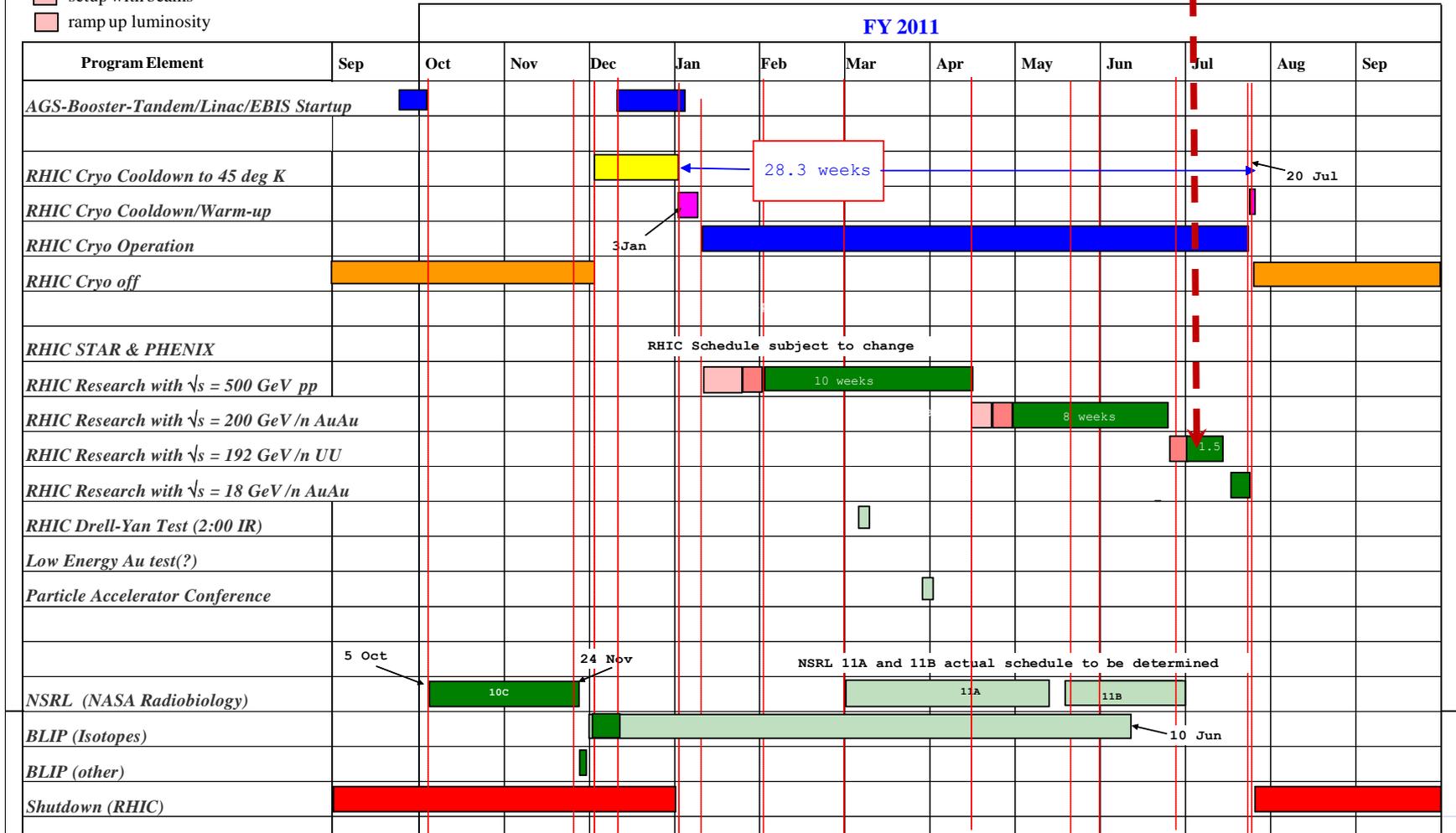
- Agreed to new APEX schedule, 12 hour sessions (0800-2400) every other week away from maintenance days.

C-A Operations-FY11

26 weeks

planned (budget permitting)

- concurrent with RHIC
- setup with beams
- ramp up luminosity



Run 11 Plan based on PAC recommendation/ALD Guidance and 28.3 weeks cryo operation 11/23/10 update

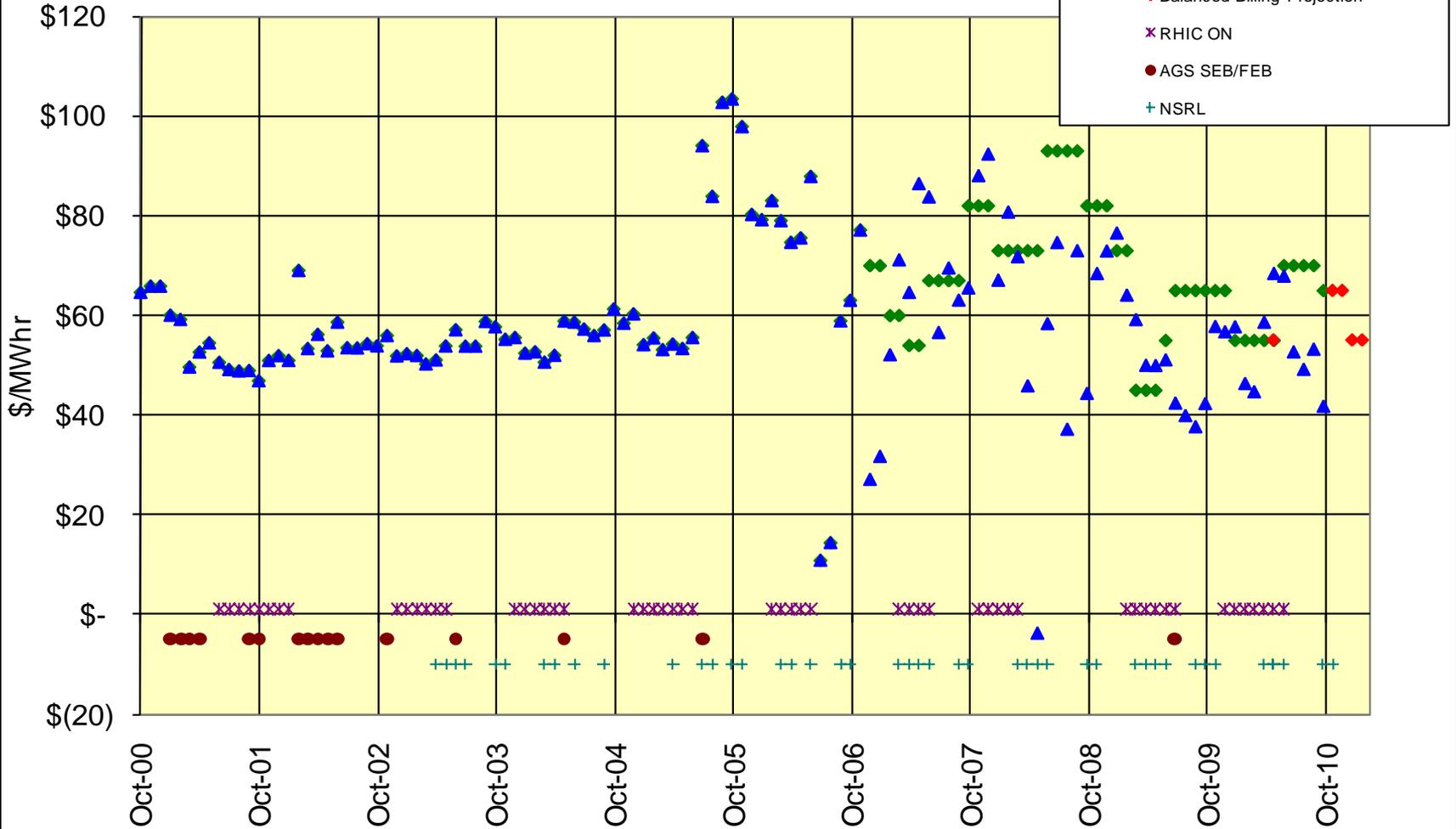
- 3 Jan, Begin cool-down to 4.5K
- 9 Jan, Cool-down to 4.5K complete in both rings
- 11 Jan, 2 ½ weeks beam setup for $\sqrt{s} = 500$ GeV pp in RHIC begins.
- 27 Jan (Thursday), 1 week Ramp-up with 8 hr/night beam to experiments
- **3 Feb, begin 10 week physics run ($\sqrt{s} = 500$ GeV pp)**
- **28 March – 1 April, PAC 2011**
- **14 Apr, end 10 week physics run at $\sqrt{s} = 500$ GeV pp run**
- 14 Apr, begin 1 week setup for $\sqrt{s} = 200$ AuAu
- 21 Apr, begin 1 week Ramp-up with 8 hr/night beam to experiments
- **28 Apr, begin 8 week physics run at ($\sqrt{s} = 200$ AuAu)**
- **23 Jun, end 8 week $\sqrt{s} = 200$ AuAu run**
- 23 Jun, begin setup for $\sqrt{s} = 192$ GeV UU
- **30 Jun, begin 1½ week physics run ($\sqrt{s} = 192$ UU)**
- **4 July – completed 26 weeks of cryo operation, may be out of \$\$'s**
- **10 Jul, end 1½ week physics run at $\sqrt{s} = 192$ GeV**
- 10 Jul, begin setup for $\sqrt{s} = 18$ GeV AuAu
- **11 Jul, begin 1 week physics run ($\sqrt{s} = 18$ AuAu)**
- **18 Jul, end 1 week physics run at $\sqrt{s} = 18$ GeV**
- 20 Jul, warm-up complete (28.3 weeks)

Possible additions:

- Low energy test run

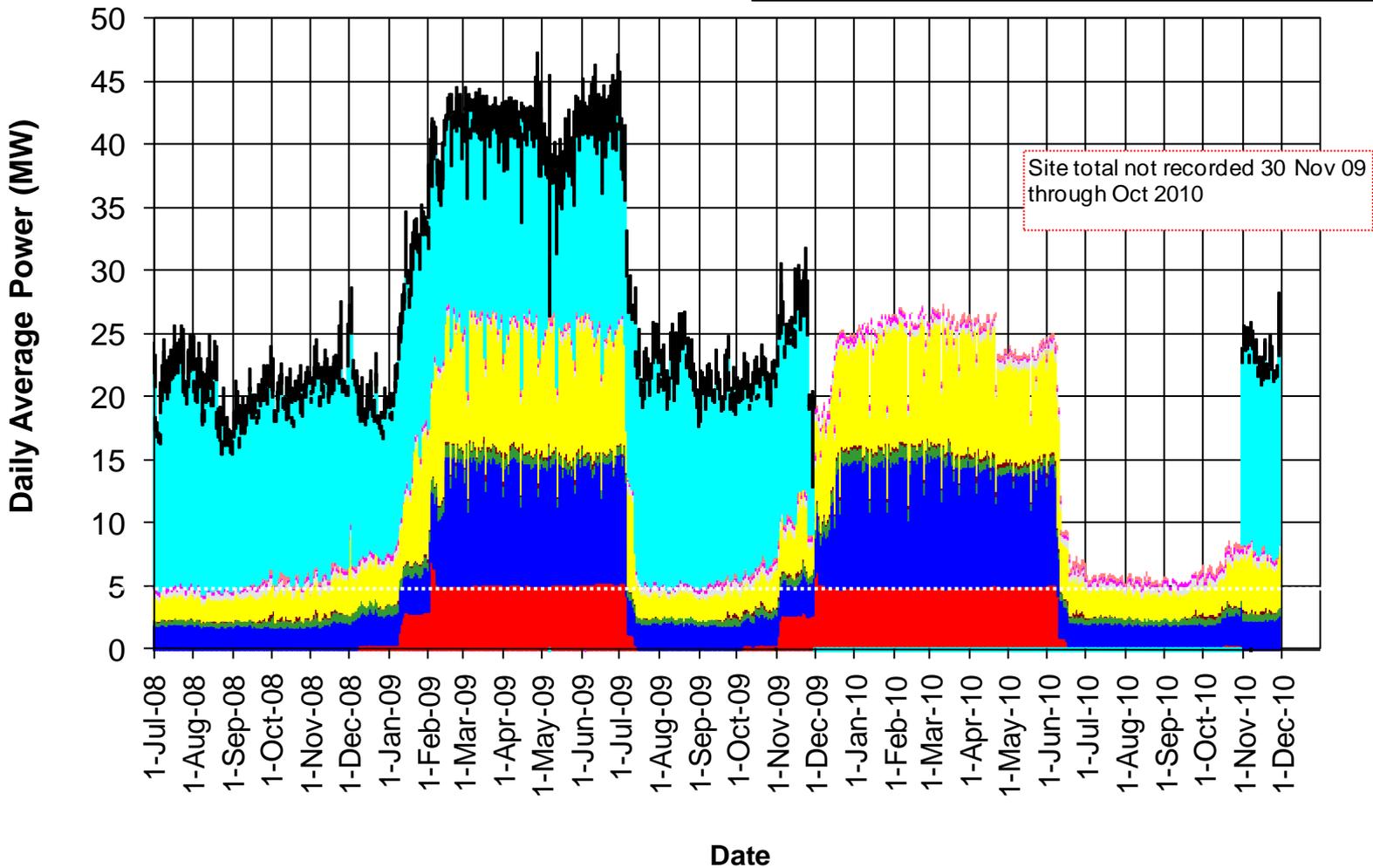
BNL Energy Cost

through Oct 2010



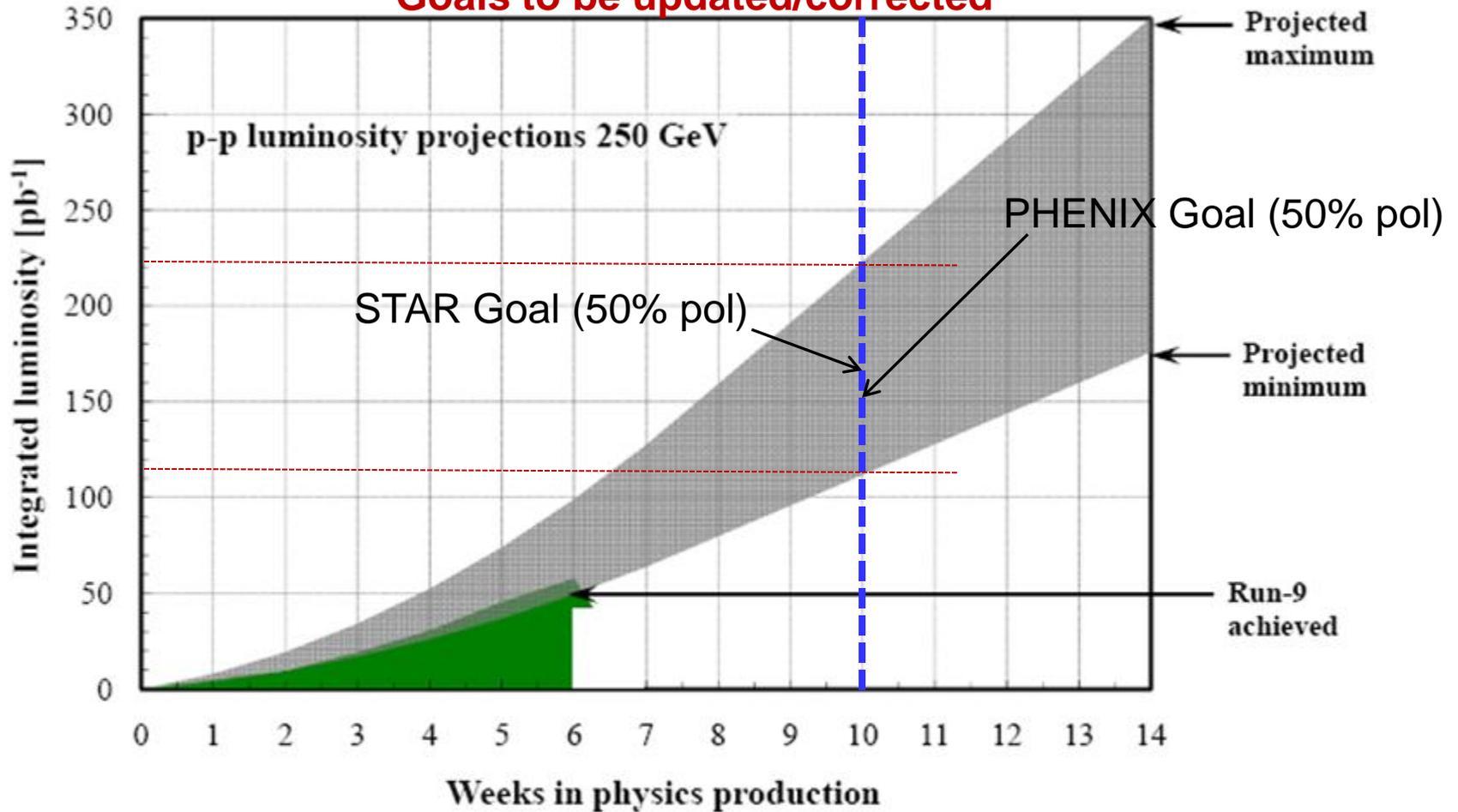
BNL Energy Use FY 2009-11

- RHIC Cryo
- Booster
- CAD Bldg less SMD
- BNL Peak-Av
- RHIC other
- AGS-Mach
- NSRL
- Series11
- AGS-Exp
- Tandem
- Site Base



Run-11 p[↑]-p[↑] luminosity projections

Goals to be updated/corrected

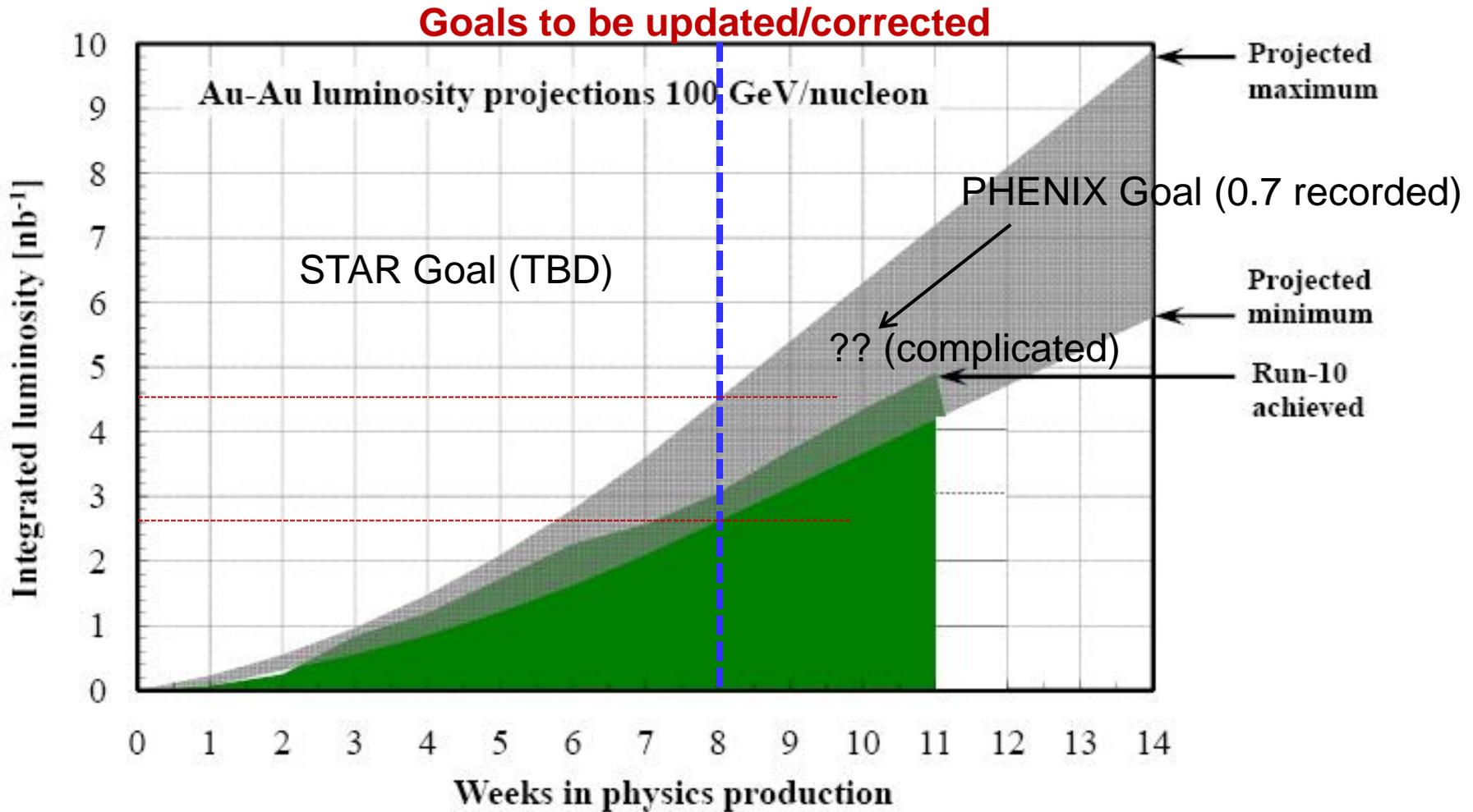


Assume 8 weeks to ramp-up for max.

Expect store $P_{\text{avg}} = 35\text{-}50\%$, L_{avg} up to $100 \times 10^{30} \text{cm}^{-2} \text{s}^{-1}$ (+80%).

[from Run-9 to max projection: $\beta^* = 0.7 \rightarrow 0.6 \text{ m}$, $N_b = 1.1 \rightarrow 1.4 \times 10^{11}$]

Run-11 Au-Au luminosity projections 100 GeV/nucleon



Assume 6 weeks to ramp-up for min, and 8 weeks for max (stoch. cooling re-commissioning).

Expect L_{avg} up to $25 \times 10^{26} \text{cm}^{-2} \text{s}^{-1}$ (+25%).

[from Run-10 to max: $\beta^* = 0.75 \rightarrow 0.65$ m, $N_b = 1.1 \rightarrow 1.1 \times 10^9$, more cooling]